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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,582	09/25/2003	Clifton Harold Bromley	03SW169 / ALBRP314US	7480
7590 Susan M. Donahue Rockwell Automation, 704-P, IP Department 1201 South 2nd Street Milwaukee, WI 53204			EXAMINER KENNEDY, ADRIAN L	
			ART UNIT	PAPER NUMBER
			2129	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/670,582

Applicant(s)

BROMLEY ET AL.

Examiner

ADRIAN L. KENNEDY

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Examiner's Detailed Office Action

1. This Office Action is responsive to **Amendment After Non-Final** filed **July 12, 2006**.
2. **Claims 1-40** will be examined.

Claim Rejections - 35 USC § 112 1st paragraph

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-23, 35, and 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1-23, 35, and 38 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The claimed "multi-dimensional software objects" are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The examiner has not been able to determine what is meant from these terms due to the lack of their recitation in the disclosed invention. As a result, the examiner is unable to determine the scope of independent claims 1, 18, 35 and 38 respectively.

After carefully reviewing the applicant's disclosure, the examiner takes the position that the applicant's "multi-dimensional software objects" (independent claims 1 and 18) do not actually perform the rendering in the claimed invention. Furthermore, the software objects only

represent themselves are what are “rendered”, and don’t actually do the rendering. Finally, the software objects are rendered for the purpose of representing physical devices and allowing a user interface based means of controlling said physical devices.

Therefore, claims 1-23, 35, and 38 have not been examined under the merits with regards to the prior art. Appropriate correction is required.

5. Claims 29-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 29-34 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The claimed “multi-dimensional object structure” and “multi-level hierarchical attributes” critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The examiner has not been able to determine what is meant from these terms due to the lack of their recitation in the disclosed invention. As a result, the examiner is unable to determine the scope of independent claim 29 and 33 respectively.

Therefore, claims 29-34 have only been examined under the merits with regards to the prior art to the best of the examiner’s ability reading the claims in light of the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, the claimed invention is rejected due to the fact that it is (1) not tied to another statutory class (such as a particular apparatus), nor does it (2) transform underlying subject matter to a different state or thing.

The claims must to provide a tangible result, and there must be a practical application, by either

- 1) transforming (physical thing) or
- 2) by having the FINAL RESULT (not the steps) achieve or produce
a useful (specific, substantial, AND credible),
concrete (substantially repeatable/non-unpredictable), AND
tangible (real world/non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended. A claim that recites a computer that solely calculates a mathematical formula is not statutory.

However, the portions of the opinions in State Street and AT&T relying solely on a “useful, concrete and tangible” result analysis should no longer be relied on. Ex parte Bilski, Appeal No. 2007-1130 (Fed. Cir. October 30, 2008).

The court has said that there's a two-pronged test to determine whether a software of business method process patent is valid: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. In other words, pure software or business method patents that are neither tied to a specific machine nor change something into a different state are not patentable. Ex parte Bilski, Appeal No. 2007-1130 (Fed. Cir. October 30, 2008).

The body of the claims needs to be tied to a statutory class and produce a concrete, useful

and tangible result. For example, how labeling clusters within a truncated hierarchy is observable and useful in the real world?

[In Abele], we held unpatentable a broad independent claim reciting a process of graphically displaying variances of data from average values. *Abele*, 684 F.2d at 909. **That claim did not specify any particular type or nature of data; nor did it specify how or from where the data was obtained or what the data represented.** *Id.*; ... In contrast, we held one of Abele's dependent claims to be drawn to patent-eligible subject matter where it specified that "said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner." *Abele*, 684 F.2d at 908-09. This data clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly-claimed process patent-eligible.

... So long as the claimed process is limited to a practical application of a fundamental principle to transform **specific** data, and the claim is limited to a **visual depiction that represents specific physical objects or substances**, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

This court and our predecessor court have frequently stated that adding a data-gathering step to an algorithm is insufficient to convert that algorithm into a patent-eligible process. *E.g.*, *Grams*, 888 F.2d at 840 (step of "deriv[ing] data for the algorithm will not render the claim statutory"); *Meyer*, 688 F.2d at 794 ("[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory"). ... **A requirement simply that data inputs be gathered—without specifying how—is a meaningless limit** on a claim to an algorithm because every algorithm inherently requires the gathering of data inputs. *Grams*, 888 F.2d at 839-40. Further, the inherent step of gathering data can also fairly be characterized as **insignificant extra-solution activity**. See *Flook*, 437 U.S. at 590. (See In re Bilski, 88 USPQ2d 1397-1398, emphasis added)

Based on this guidance, examiner finds that the claimed "dataset" does not specify any particular type or nature of data, nor does it specify how or from where the data is obtained, or what the data represents – and is therefore a meaningless limit on a claim to an algorithm which labels data – and this can further be characterized as insignificant extra-solution activity. In re Bilski, 88 USPQ2d 1397-1398 quoting Grams and Flook.

As a corollary, the *Diehr* Court also held that **mere field-of-use limitations are generally insufficient** to render an otherwise ineligible process claim patent-eligible. *See* 450 U.S. at 191-92 (noting that ineligibility under §101 “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment”). ... Pre-emption of all uses of a fundamental principle in all fields and pre-emption of all uses of the principle in **only one field** both indicate that the claim is **not limited to a particular application** of the principle. *See Diehr*, 450 U.S. at 193 n.14 (“A mathematical formula *in the abstract* is nonstatutory subject matter regardless of whether the patent is intended to cover all uses of the formula or only limited uses.”) (emphasis added). ...

The *Diehr* Court also reaffirmed a second corollary to the machine-or-transformation test by stating that “insignificant postsolution activity will **not** transform an unpatentable principle into a patentable process.” *Id.* at 191-92; *see also Flook*, 437 U.S. at 590 (“The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance.”). The Court in *Flook* reasoned:

A competent draftsman could attach some form of post-solution activity to almost any mathematical formula; the Pythagorean theorem would **not** have been patentable, or partially patentable, because a patent application contained a final step indicating that the formula, when solved, could be usefully applied to existing surveying techniques.

437 U.S. at 590. Therefore, **even if** a claim recites a specific machine or a particular transformation of a specific article, the recited machine or transformation **must not constitute mere “insignificant postsolution activity.”** (See *In re Bilski*, 88 USPQ2d 1393, emphasis added)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 24, 36-37 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wolff et al.** (USPubN 2003/0120714, referred to as Wolff)

Regarding claims 24 and 40

Wolff teaches

The examiner takes the position that the applicant is attempting to claim the displaying of 3 dimensional objects as 2 dimensional objects, and displaying various views of said displayed image. The examiner takes the position that the applicant's claiming would have been inherent in the invention of Wolff. This inherency is inherent in the fact that Wolff represents various views of a factor and scales the image based on the interface the image is being presented on.

Regarding claim 36

Wolff teaches

The examiner takes the position that the applicant's claiming of "mapping", "determining" and "formatting" and "creating" would have been obvious to one of ordinary skill in that art and was used in several software packages (e.g. Labview) and inventions (e.g. Wolff) which link HMIs and physical devices. Furthermore, it would have obvious to one of ordinary skill that in order for the above cited inventions/software packages to functions that some form of the "mapping", "determining", "formatting" and "creating" would have to take place.

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Regarding claim 37

Wolff teaches

The examiner takes the position that the applicant's claiming of "mapping", "determining" and "formatting" and "delivering" would have been obvious to one of ordinary skill in that art and was used in several software packages (e.g. Labview) and inventions (e.g. Wolff) which link HMIs and physical devices. Furthermore, it would have obvious to one of ordinary skill that in order for the above cited inventions/software packages to functions that some form of the "mapping", "determining", "formatting" and "delivering" would have to take place.

Regarding claim 39

Wolff teaches

The examiner takes the position that the applicant's claimed "mapping", "generating" "formatting" and "creating" would have been obvious to one of ordinary skill in the art. This position is supported by the fact that it would not have been possible for the invention of Wolff to operate without some form of the "mapping", "generating" "formatting" and "creating" taking place.

Response to Arguments

Applicant's arguments filed on December 8, 2008 have been fully considered but are found to be non-persuasive. The unpersuasive arguments made by the Applicant are stated below:

In reference to Applicant's argument:

When associated with computer hardware such as computer readable media, functional descriptive material is allowable.

Examiner's response:

The examiner has considered the applicant's argument and has found that computer readable media or computer hardware does not satisfy the requirement that the final result produced by the claim be concrete, useful and tangible. Furthermore, there is nothing in the body of the claimed invention that indicates a practical application or a tangible final result. This position is based on the examiner's assertion that "rendering", "enabling communications", "delivering", "mapping", "determining", "creating software objects", and "enabling displaying" (versus actually displaying) are all only manipulations of data that don't effect anything in the real world, operate on abstract data and preempt disclosed and non-disclosed applications (due to not operating on abstract "data").

In reference to Applicant's argument:

Rendering can reach a level of detail that emulates the physical controls common to a system (e.g. dials, gauges, sliders) as well as display system changes as they occur.

Examiner's response:

The examiner has considered the applicant's statement, and makes has argues that while rendering data the emulates (i.e. represents) physical controls of a system and that allows the control of a physical system (as argued on page 12 of the applicant's arguments), merely rendering data (as claimed) is not statutory. Specifically, there is a disconnect between the argued, claimed and disclosed inventions.

Conclusion

Examiner's Opinion:

The examiner has considered the applicant's arguments in light of the claimed invention. Furthermore, the examiner respectfully reminds the applicant that “**during examination, the claims must be interpreted as broadly as their terms reasonably allow**”. (MPEP 2111.01 [R-5] I)

It is the goal of the Examiner to move the applicant's claimed invention towards allowability. However, as presently claimed, the applicant's claimed invention is substantially broad and is broad enough to read on the prior art of record. The examiner respectfully request that the applicant consider what the invention is, and where the line between the prior art (cited by the examiner and/or known by the applicant) and the applicant's intended invention lay. This request is made so the examiner can help the applicant arrive at claim language that not only traverses the language taught in the presently pending and/or previously disclosed prior art, but also traverses concepts taught (or suggested) in prior art known by the examiner and/or applicant which has not been cited. Also, the examiner is more than willing to have an interview with applicant, but requests that the applicant disclose what he or she considers to be the most inventive portion of the claimed and/or disclosed invention.

- Regarding 101, the examiner requests that the applicant contact the examiner to discuss the issues regarding the claimed invention.
- The examiner respectfully requests that should the applicant decide to submit further correspondence, that the applicant contact the examiner prior to said submittal. This contact should be made to facilitate compact prosecution, to determine what portion of the disclosed invention the applicant wishes to patent, to discuss what portion of the claimed invention is patent eligible. If necessary, the examiner would also like to speak with the inventor.

Should the applicant choose to amend, the Examiner respectfully suggests that the applicant more explicitly recite what the applicant considers to be the most novel portion of the disclosed invention in the claimed invention. (The previously cited suggestions are not a recitation of allowable subject matter, but are rather subject matter disclosed/claimed by the applicant which will help further distinguish the claimed invention from the prior art. Furthermore, any amendment will require further searching of the prior art.).

Claims 1-40 are rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrian L. Kennedy whose telephone number is (571) 270-1505. The examiner can normally be reached on Mon -Fri 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ALK/

/David R Vincent/
Supervisory Patent Examiner,
Art Unit 2129